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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,282	03/25/2002	Frank Hofmann	1941	9040

7590  
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05/19/2008

EXAMINER
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WOZNIAK, JAMES S

ART UNIT	PAPER NUMBER
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2626

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/030,282	<b>Applicant(s)</b> HOFMANN ET AL.	
	<b>Examiner</b> JAMES S. WOZNAK	<b>Art Unit</b> 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. In response to the office action from 10/1/2007, the applicant has submitted an amendment, filed 3/31/2008, amending independent claim 2, while arguing to traverse the art rejection based on the limitation regarding independent channels and signaling that indicates whether an auxiliary data stream is provided (*Amendment, Pages 8-10*). Applicant's arguments have been fully considered, however the previous rejection is maintained due to the reasons listed below in the response to arguments.

2. In response to amended claims 2 and 8, the examiner has withdrawn the previous 35 U.S.C. 112, first paragraph rejection directed towards new matter.

### ***Response to Arguments***

3. Applicant's arguments have been fully considered but they are not persuasive for the following reasons:

With respect to the independent claims, the applicant first argues that Mansour et al (*U.S. Patent: 6,353,637*) fails to teach that the channels in Mansour are "independent of each other" because Mansour only discloses a single carrier with different subcarriers (*Amendment, Page 8*).

In response, the examiner notes that Mansour teaches the aforementioned claim limitation for two reasons. First, it is pointed out that Mansour shows that the core data stream and enhancement data streams are *separately* encoded and processed for transmission (*Fig. 2*). These data stream are transmitted in separate AM frequency *ranges* (*Fig. 1, Elements 103, 105, 107*) or frequency *channels*. Although Mansour mentions that a single carrier frequency can be utilized, the claimed invention is silent regarding individual carrier frequencies assigned to each data stream for transmission to distinguish it from this configuration in Mansour. Secondly, Mansour further suggests that multi-channel configuration (*i.e., multi-carrier*) can additionally be used (*"the invention may be utilized with any desired type of communication channel or channels"*, *Col. 3, Line 50- Col. 4, Line 4*), while Nahrstedt (*"An Architecture for End-to-End Quality of Service Provision and Its Experimental Validation," 1995*) explicitly provides this teaching (*Page 49*). Thus, for at least these two reasons, the applicant's arguments have been fully considered, but are not convincing.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (*i.e., "channels are broadcast channels with independent carriers"*, *Amendment, Page 8*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In regards to the Campanella et al reference (*U.S. Patent: 6,201,798*), the applicant argues that the disclosed auxiliary data field (*ADF1*) is for one frame and does not belong to independent broadcast channels (*Amendment, Pages 9-10*). In response, the examiner notes that

Campanella teaches that the auxiliary data field is used to associate primary information with "other broadcast channels" via pointer data (*Col. 24, Lines 29-63*). Campanella also provides motivation for adding this feature to the teachings of Mansour (*see Prior OA, Page 9*). Thus, these arguments have been fully considered, but are not convincing.

The art rejection of the dependent claims is traversed for reasons similar to the independent claims (*Amendment, Page 10*). In regards to such arguments, see the above response directed towards the independent claims.

### ***Claim Objections***

4. **Claims 2 and 5** are objected to because of the following informalities:

In claim 2, the final limitation deals with processing performed at a transmitter prior to reception at a receiver/decoder. Thus, it is believed that this limitation should be placed before the step of "intentionally using a receiver...".

Dependent claim 5 fails to overcome the aforementioned claim objection, and thus, is also objected to due to minor informalities.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1-2, 4-5, and 7-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Mansour et al in view of Nahrstedt (*"An Architecture for End-to-End Quality of Service Provision and Its Experimental Validation,"* 1995), and further in view of Campanella et al (U.S. Patent: 6,201,798).

With respect to **Claims 1 and 7**, Mansour discloses:

A method for transmission-end preparation of source-coded audio data of at least one useful signal source, in particular for transmission via AM channels (*IBOC-AM system, Col. 4, Lines 5-53*) of a predetermined channel raster with the following features:

The source coded audio data of at least one useful signal source are separated into a main data stream and at least one auxiliary data stream (*dividing coded audio into a core audio stream (C-stream) and enhancement streams (E<sub>1</sub> and E<sub>2</sub> streams), Col. 4, Lines 37-53 and Col. 5, Lines 4-27*);

Wherein the main data stream contains at least the amount of information that is required for a comprehensible reproduction of at least one useful signal source (*C-stream that provides minimum acceptable audio quality upon recovery at a receiver, Col. 4, Lines 37-53*) and the auxiliary data stream contains information for quality improvement (*enhancement streams that allow for higher audio quality when combined with a recovered C-stream, Col. 4, Lines 37-53*);

The main and auxiliary data streams are modulated and accommodated in respective different channels of the predetermined channel raster (*modulation of core and enhancement audio streams at a modem and transmission of the streams using different channels, Col. 5, Line*

52- Col. 6, Line 45; Fig. 2; and Col. 8, Lines 61-65; wherein channels can correspond to communication broadcast channels, Col. 3, Line 50- Col. 4, Line 4).

Although Mansour suggests that his invention can alternatively be carried out with a plurality of communication channels (*"the invention may be utilized with any desired type of communication channel or channels," Col. 3, Line 50- Col. 4, Line 4*), Mansour only suggests such an implementation. Transmitting base and enhancement coded audio streams in different broadcast channels is well known in the art, however, as is explicitly evidenced by the teachings of Nahrstedt (*multiple priority transmission channels used to transmit voice data from different streams, Pages 49-50*).

Mansour and Nahrstedt are analogous art because they are from a similar field of endeavor in coded audio transmission systems utilizing core and enhancement data. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Mansour with the priority channels concept taught by Nahrstedt in order to maintain a higher quality of signal over larger data loss ranges (*Nahrstedt, Page 49*).

Although Mansour in view of Nahrstedt discloses transmitting coded audio core and enhancement layers on different transmission channels, Mansour in view of Nahrstedt does not explicitly disclose that a core audio stream includes signaling relating to whether an auxiliary stream is provided and the channel where such a stream is located. Campanella, however, recites a service control header that is inserted in each audio bit stream frame that includes an auxiliary content indicator and data for referencing an auxiliary data channel (*Col. 1, Line 63- Col. 2, Line 4; Col. 2, Lines 46-55; and Col. 23, Line 64- Col. 24, Line 62*).

Mansour, Nahrstedt, and Campanella are analogous art because they are from a similar field of endeavor in coded audio transmission systems utilizing core and enhancement data. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, modify the teachings of Mansour in view of Nahrstedt with the service control header taught by Campanella in order to implement a means for dynamically controlling the reception of an audio broadcast at a remote receiver (*Campanella, Col. 2, Lines 3-4*).

With respect to **Claim 2**, Mansour discloses the transmission-end preparation method and system, as applied to Claims 1 and 7, and additionally recites:

A receiver with low reproduction quality is used to demodulate and decode only the main data stream (*core audio stream processing at a receiver, Col. 6, Line 46- Col. 7, Line 12*);

A receiver with higher reproduction quality is intentionally used to demodulate and decode only the main data stream or the main data stream and at least one associated auxiliary data stream are demodulated and decoded, where mutually associated demodulated and decoded data streams are linked to one another in such a way that an increase is achieved in the reproduction quality for the at least one useful data source (*demodulating and decoding core and enhancement audio streams and blending the streams together to generate higher quality recovered audio, Col. 6, Line 46- Col. 8, Line 34 and Col. 4, Lines 37-53*).

Although Mansour suggests that his invention can alternatively be carried out with a plurality of communication channels (*"the invention may be utilized with any desired type of communication channel or channels," Col. 3, Line 50- Col. 4, Line 4*), Mansour only suggests such an implementation. Transmitting base and enhancement coded audio streams in different broadcast channels is well known in the art, however, as is evidenced by the teachings of



Nahrstedt (*multiple priority transmission channels used to transmit voice data from different streams, Pages 49-50*).

Mansour and Nahrstedt are analogous art because they are from a similar field of endeavor in coded audio transmission systems utilizing core and enhancement data. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Mansour with the priority channels concept taught by Nahrstedt in order to maintain a higher quality of signal over larger data loss ranges (*Nahrstedt, Page 49*).

Although Mansour in view of Nahrstedt discloses transmitting coded audio core and enhancement layers on different transmission channels at a transmitting end, Mansour in view of Nahrstedt does not specifically suggest that a core audio stream includes signaling relating to whether an auxiliary stream is provided and the channel where such a stream is located. Campanella, however, recites a service control header that is inserted in each audio bit stream frame that includes an auxiliary content indicator and data for referencing an auxiliary data channel (*Col. 1, Line 63- Col. 2, Line 4; Col. 2, Lines 46-55; and Col. 23, Line 64- Col. 24, Line 62*).

Mansour, Nahrstedt, and Campanella are analogous art because they are from a similar field of endeavor in coded audio transmission systems utilizing core and enhancement data. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Mansour in view of Nahrstedt with the service control header taught by Campanella in order to implement a means for dynamically controlling the reception of an audio broadcast at a remote receiver (*Campanella, Col. 2, Lines 3-4*).

With respect to **Claim 4**, Campanella further discloses an auxiliary data content indicator (*Col. 2, Lines 46-55*) and a service component control field that indicates how main and auxiliary data is decoded (*Col. 3, Lines 25-36*).

With respect to **Claim 5**, Mansour discloses the means for blending core and enhancement audio streams, as applied to claim 2, and further notes the use of enhancement streams for adding stereo components (*Col. 9, Lines 9-11*).

**Claim 8** contains subject matter similar to Claims 2 and 4, and thus, is rejected for the same reasons.

7. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Mansour et al in view of Nahrstedt (*"An Architecture for End-to-End Quality of Service Provision and Its Experimental Validation," 1995*), in view of Campanella et al (*U.S. Patent: 6,201,798*) and further in view of Lou et al (*U.S. Patent: 6,370,666*).

With respect to **Claim 6**, Mansour in view of Nahrstedt, and further in view of Campanella discloses the method and system for dividing coded audio into core and enhancement audio streams for transmission-end processing, as applied to Claim 1. Mansour in view of Nahrstedt, and further in view of Campanella does not specifically suggest that the scalability of MPEG 4 data streams is used to separate the source-coded audio data into main and auxiliary data streams, however Lou discloses the use of MPEG 4 for dividing coded audio into main and auxiliary data (*Col. 6, Lines 17-33*).

Mansour, Nahrstedt, Campanella, and Lou are analogous art because they are from a similar field of endeavor in coded audio transmission systems utilizing core and enhancement

data. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, modify the teachings of Mansour with the use of MPEG 4 for dividing coded audio into main and auxiliary data as taught by Lou in order to enable the creation of enhancement layers that provide for higher quality audio reproduction (*Lou, Col 6, Lines 17-33*) using a well-known coding standard that can be implemented using readily available audio coders.

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached at (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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